

The effects of luxury restaurant environments on diners' emotions and loyalty:  
Incorporating diner expectations into an extended Mehrabian-Russell model

**Abstract**

**Purpose:** Consumers dine at luxury restaurants for reasons beyond fulfilling basic needs. However, little is known about the factors that contribute to diners' emotions and loyalty toward luxury restaurants. This paper examines diners' luxury restaurant consumption behavior by incorporating diner expectations into a modified Mehrabian–Russell model.

**Design/methodology/approach:** To examine the proposed six hypotheses, qualitative and quantitative studies were performed. Following exploratory qualitative research, 310 consumers who dined at Taiwan's five-star hotel restaurants were recruited for the main study. Data were analyzed using structural equation modeling.

**Findings:** The results show that restaurants' stimuli influence diners' positive and negative emotions (organisms), which, in turn, affect their loyalty toward luxury restaurants (responses). Furthermore, customers with different levels of expectation react differently to stimuli.

**Practical implications:** This study offers new empirical support for the proposition that diner expectation plays a role in building customer loyalty and thereby shades both theoretical and managerial understanding of the luxury restaurant consumption process.

**Originality/value:** This study conceptualizes diners' loyalty toward luxury restaurants (e.g., revisiting and recommending luxury restaurants) by examining the influence of restaurants' stimuli, diners' emotions, and customers' expectations toward luxury restaurants. Additionally, this study offers some managerial implications for practitioners.

**Keywords:** luxury restaurant, restaurant environments, emotions, diner expectations, diners' emotions and loyalty

## **Introduction**

The global luxury goods market was valued at US\$302 billion in 2012 (all monetary figures in this paper are in USD), more than five times the value of the industry in 1997 (Nueno and Quelch, 1998; Roberts, 2012). Scholars have long explored the luxury goods market and its consumers (e.g., Berthon et al., 2009; Chadha and Husband, 2006; Gardyn, 2002; Jolson et al., 1981; Nueno and Quelch, 1998), and scholarly interest in this market increased further after its success in the face of the ongoing global recession (Sullivan, 2009; Wood, 2009).

Scholars suggest that the appeal of luxury goods may lie in their ability to signify luxury value to users and others (Chadha and Husband, 2006; Gardyn, 2002; Jolson et al., 1981; Nueno and Quelch, 1998). This ability is mainly due to the perceived premium quality of luxury goods, recognizable style, reputation, and limited accessibility (Berthon et al., 2009; Hung et al., 2011). Although progress has been made, Berthon et al. (2009) note that the consumption behavior of luxury goods remains poorly understood and under-investigated. Few studies have examined the consumption of luxury services by studying the effect of intangible stimuli (e.g., service quality and atmospherics) on organisms (e.g., diners' emotions) and consumers' subsequent responses (e.g., loyalty), although luxury products have become more accessible to middle class consumers since the mid-2000s (Lee and Hwang, 2011; Mintel, 2011; Silverstein and Fiske, 2003). Previous studies have mainly examined the consumption of tangible luxury goods such as handbags, accessories, and automobiles (e.g., Han et al., 2010; Hung et al., 2011).

Due to the gaps in the literature, relatively little is known about luxury service consumption and the factors that contribute to customers' loyalty toward luxury restaurants. To augment the literature, this study examines the factors affecting Taiwanese diners' loyalty toward luxury restaurants. This luxury consumption context

is important for three reasons. First, the restaurant industry has grown significantly since the 1980s. From the 1980s to 2011, global restaurant industry sales increased more than ten-fold, from \$42.8 billion to \$536.7 billion. Second, according to Wu and Liang (2009) and Lee and Hwang (2011), fine dining is a luxury leisure activity worthy of further investigation because it is increasingly valued by middle class consumers and their families. Third, existing theories on luxury goods consumption may need to be adjusted when applied to service-based products due to these products' perishable and intangible natures.

The objectives of this study are as follows. First, the study conceptualizes customer loyalty toward luxury restaurants using a modified Mehrabian-Russell model (M-R model). Previous research on the consumption of luxury goods has focused on physical goods rather than intangible services. This study investigates how luxury restaurants' dining environments (i.e., food quality, service quality, atmospherics, and interaction with other diners) affect customers' positive and negative emotions. Second, this study examines how diners' emotions are affected by other diners. To this end, an "other customers" variable will be incorporated into the modified M-R model. The inclusion of this variable contributes to the hospitality literature because, although scholars have suggested that it may be an influential factor, few studies have examined it empirically. Third, the study tests the moderating effect of diner expectation within the context of luxury restaurant consumption. Previous studies have examined the moderating effect of expectation, but they have not focused on service products. Due to the characteristics of services (e.g., intangible), the effects of expectation on luxury service products may require further examination. This study specifically examines the ways in which diner expectation can affect the relationship between stimuli and organisms (i.e., customers' emotions). Finally, the implications of this study for tourism and hospitality practitioners are

discussed.

## **Literature Review**

### *Luxury restaurants- Definition and previous studies*

Based on developments in the restaurant industry and the definitions of luxury goods by Berthon et al. (2009), Han et al. (2010), Lee and Hwang (2011), and Nueno and Quelch (1998), in this study, a luxury restaurant is defined as a full-service restaurant whose environment (e.g., décor, atmospherics, and services) and products (e.g., food and beverages) are carefully prepared and presented, unique, superior in quality, and conspicuous. Among different types of restaurants (e.g., full/limited-service and fine/family/casual dining environment), full-service and fine dining restaurants have received increased attention since 2000 (Lee and Hwang, 2011).

Among the scholars who have studied diners' behavior, the work conducted by Jang and Namkung (2009), Kwun and Oh (2006), Lee and Hwang (2011), Liu and Jang (2009), Ryu et al. (2012), and Wu and Liang (2009) is most relevant to the current research. Kwun and Oh's (2006) study investigates the impact of restaurants' performance factors on new and experienced customers. The authors' results demonstrate how perceived performance (i.e., service, food, beverages, facilities, and atmospherics) differently influences new and existing customers' intentions to revisit and recommend the restaurant to others. For new customers, food, facilities, and beverages are important factors that affect their intentions to revisit and recommend a restaurant. Existing customers, however, will revisit and recommend the restaurant if they are satisfied with its service performance. Kwun and Oh's (2006) research contributes to the literature because it identifies how restaurants' stimuli affect experienced and less-experienced diners' consumption behavior differently, and their paper's emphasis on existing leisure and hospitality-related theory could be further

highlighted. In addition, although two restaurants were included in Kwun and Oh's (2006) study, little information about the restaurants' characteristics (e.g., interior design and atmospherics) was disclosed. In other words, it is unknown whether Kwun and Oh's findings can be applied to luxury restaurants.

Wu and Liang (2009) contribute to the luxury restaurant consumption research by focusing on service performance, stimuli, and diners' additional influences on perceived experiential value and satisfaction. The results show that restaurant staff, dining environment, and other diners can affect customers' perceived experiential value of luxury restaurants and their satisfaction with their dining experiences. Additionally, Wu and Liang's (2009) research provides a clear perspective on the definition of luxury restaurants. In the authors' study, four-star and five-star hotels' full-service restaurants are considered luxury restaurants because they are subject to stringent inspection, high customer expectations, and competition from nearby restaurants. Although Wu and Liang's (2009) research is significant, it can be further developed. Their study examines diners' levels of satisfaction but does not consider their loyalty toward luxury restaurants.

Lee and Hwang (2011) examine how diners' demographic backgrounds and motivations influence their attitudes toward luxury restaurant consumption. Their research is significant in several ways. They identify additional conditions that render a restaurant luxurious, suggesting that luxury restaurants possess the following characteristics: full service, a high-quality environment, and entrées that cost \$20 or more. In addition, they confirm that diners' luxury values significantly influence their luxury restaurant consumption attitudes.

The current understanding of luxury restaurants can be furthered beyond Lee and Hwang's (2011) contributions. Their study examines consumption attitudes rather than actual behavior. Moreover, unlike previous luxury goods research that provided

examples of brands and goods for survey respondents to evaluate (e.g., Berthon et al., 2009; Han et al., 2010; Hung et al., 2011), no examples of luxury restaurants were provided to Lee and Hwang's (2011) survey respondents. Finally, Lee and Hwang's (2011) study did not consider the restaurant environment when examining diners' attitudes. Previous studies have demonstrated that a restaurant's environment and food can influence consumers' experiences.

Ryu et al. (2012) examine customers' intentions to dine at upscale Chinese restaurants. Their study is important in number of ways. They consider and confirm that restaurants' food quality, service quality, and physical environment influences diners' perceptions of a restaurant, its value, their satisfaction with it, and future behavioral intentions. The approach and framework of Ryu et al. (2012) contributes to the hospitality literature. Nonetheless, the understanding of luxury restaurants can be furthered in three ways. First, in examining the antecedents of diners' restaurant consumption behavior, several scholars (e.g., Han et al., 2009; Jang and Namkung, 2009; King and Meiselman, 2010) have highlighted the importance of diners' emotions. This is because the impact of stimuli on diners is often intense and immediate. Additionally, diners' emotions will often determine their future behavioral intentions, such as whether to revisit the restaurant (Jang and Namkung, 2009). Second, Ryu et al.'s (2012) study does not consider the influence of other diners. As Wu and Liang (2009) demonstrate, other diners can affect customers' luxury restaurant dining experiences. Third, scholars have found that some variables can moderate customers' decision making processes, such as expectations (Devlin et al., 2002; Wong and Dioko, 2013); however, Ryu et al.'s (2012) framework does not consider the potential moderating effect of these variables on diners' restaurant consumption behavior.

Liu and Jang (2009) examine the relationships among dining atmospherics,

emotional responses, perceived value, and behavioral intention in the context of Chinese restaurants. They find that atmospherics influence diners' positive and negative emotions, which in turn affect consumers' behavioral intentions. Their study is one of the first hospitality studies to include both positive and negative emotions in a modified M-R framework. Moreover, it is one of the few studies to confirm that both positive and negative emotions affect individuals' behavioral intentions. Their study contributes to the research on restaurant consumption behavior, but many research opportunities remain. First, the authors include three mid-scale level restaurants located in a Midwestern U.S. city. The average cost of a meal at these establishments is \$12. Lee and Hwang (2011) suggest that to be classified as a luxury restaurant, a dining establishment must serve entrees priced at \$20 or more. It is therefore unclear whether the authors' model can be applied to luxury restaurants. Second, the authors focus exclusively on stimuli in the restaurant's dining environment (e.g., service, design, ambience, and layout) without considering its main product: food. Third, Liu and Jang (2009) examine three Chinese restaurants. It may be possible to broaden the generalizability of these findings, however, by examining additional restaurants and restaurants with ethnically diverse concepts.

Finally, Jang and Namkung's (2009) study has the most direct implications for the present study's framework. Using a modified M-R model to examine the impact of restaurant-specific stimuli (i.e., product quality, atmospherics, and service quality) on upper-middle class and middle class diners' emotions, their results show that service quality and atmospherics positively affect diners' positive emotions, whereas product quality is negatively correlated with diners' negative emotions. Moreover, their results show that only positive emotions can affect diners' subsequent behavioral intention. Additionally, Jang and Namkung (2009) extend the M-R model by testing the direct effect of stimuli on diners' responses. They find that service quality and atmospherics

can directly influence behavioral intentions but that product quality does not exert such an effect.

Although the M-R model is often used to examine service-related consumption, Jang and Namkung's findings and framework cannot be applied to luxury restaurant consumption scenarios without qualification. In addition to fulfilling basic needs, diners often go to luxury restaurants for reasons that differ from those behind visiting casual or family restaurants (Lee and Huang, 2011; Wu and Liang, 2009). Moreover, Jang and Namkung do not consider any variables that may moderate customers' decision making processes, such as customers' expectations. Based on this review of the current literature on luxury restaurant consumption, several research opportunities emerge.

#### *Research framework and hypotheses*

Mehrabian and Russell's (1974) study on the influence of stimuli and the model they propose significantly affected the study of environmental psychology. According to these authors, stimuli (S) can affect organisms (O). Organisms, in turn, influence an individual's response (R). Scholars studying hospitality services and retail environments often consider stimuli that are relevant to these settings, focus on emotions when examining organisms, and consider consumption behaviors when investigating responses (Kaltcheva and Weitz, 2006; Koo and Ju, 2009; Lee et al., 2011; Tai and Fung, 1997). The M-R model and its modifications have been applied in retail, service, leisure, and tourism contexts. The contexts that have been examined include shopping (Ong and Khong, 2011; Tai and Fung, 1997), retail marketing (Kaltcheva and Weitz, 2006), online shopping (Koo and Ju, 2010), tourist shopping behavior (Yuksel, 2007), and restaurant management (Jang and Namkung, 2009). These studies' findings generally support the notion that stimuli affect consumers' emotions, which in turn influence their responses (e.g., revisiting and/or



recommending the restaurant).

After examining these studies and their contexts, this paper adopts the models of Jang and Namkung (2009) and Wu and Liang (2009), with modifications. Jang and Namkung (2009) extend the M-R model to test diners' positive and negative emotions and subsequent behavioral intentions. Their results show that restaurant-specific stimuli (i.e., atmospherics, product quality, and service quality) significantly affect diners' positive and negative emotions; however, only positive emotions affect diners' subsequent behavioral intention. The authors suggest that future research should further explore the factors that influence diners' emotions and the relationship between diners' negative emotions and behavioral intentions. In addition to the three stimuli covered by Jang and Namkung (2009), Wu and Liang (2009) suggest that other diners should be considered as stimuli in luxury restaurants.

The previous literature on consumer behavior suggests that customers' emotions affect their future behavioral intentions. Jeon and Hyun (2012) suggest that behavioral intentions can be considered a form of customer loyalty. Therefore, the current study examines diners' loyalty toward restaurants. Apart from the variables mentioned above, customers' expectations are included in the present framework as a new variable that may moderate the consumption behavior of luxury restaurant diners (Devlin et al., 2002; Wong and Dioko, 2013). The following section provides the details and definitions of each variable, followed by this study's proposed hypotheses (Figure 1).

\*Please insert Figure 1 about here.

First, a restaurant's environment influences diners' emotions. In relevant studies, emotion is an important component when examining organisms that are exposed to stimuli (e.g., Jang and Namkung, 2009; Kwun and Oh, 2006; Wu and Liang, 2009). Consumption emotion can be described as the affective responses generated

specifically during product usage or consumption experiences (Han et al., 2009; King and Meiselman, 2010). In earlier research using the M-R model, only positive emotions (i.e., pleasure, arousal, and dominance) were examined. However, Jang and Namkung (2009), Liu and Namkung (2009), and Westbrook (1987) suggest that it is necessary to consider negative emotions (e.g., anger, disgust, distress) when researching diners' restaurant consumption behavior. According to these authors, it is possible that customers experience both positive and negative emotions (e.g., happy and unhappy) simultaneously.

Koo and Ju (2010) suggest that stimuli affect customers' emotions during service encounters, which, in turn, influence their behavioral intentions. For Jang and Namkung (2009), Kwun and Oh (2006), Ryu et al. (2012), and Wu and Liang (2009), a restaurant's environment includes service quality, food quality, atmospherics, and other diners. For Kwun and Oh (2006), food and beverages are a restaurant's core products. The freshness and tastiness of the food may significantly impact consumers' emotions. In addition, Wu and Liang (2009) note that the presentation of food and beverages is an important aspect of food quality in luxury restaurants, which may influence diners' emotions. Based on the findings in the literature (e.g., Kwun and Oh, 2006; Wu and Liang, 2009), this study hypothesizes the following:

H1a: Diners' perceptions of a luxury restaurant's food quality have a positive effect on positive emotions.

H1b: Diners' perceptions of a luxury restaurant's food quality have a negative effect on negative emotions.

Second, in the context of fine dining, restaurant service personnel interact with diners throughout their visit (Jang and Namkung, 2009; Kwun and Oh, 2006; Wu and Liang, 2009). Service quality includes customers' overall perceptions of the relative inferiority or superiority of a service provider (Parasuraman et al., 1988). In the restaurant context, the staff's knowledge of the restaurant and its menu, their level of

helpfulness, and their reliability are often considered. The literature has confirmed that the staff's service quality affects diners' emotions (e.g., Jang and Namkung, 2009; Kwun and Oh, 2006). Thus, this study proposes that customers' perceptions of service quality positively affect their positive emotions and negatively affect their negative emotions.

H2a: Diners' perceptions of a luxury restaurant's service quality have a positive effect on positive emotions.

H2b: Diners' perceptions of a luxury restaurant's service quality have a negative effect on negative emotions.

Third, based on studies of retail shops, convention centers, and shopping malls, Breiter and Milman (2006), Kaltcheva and Weitz (2006), Koo and Ju (2010), Ong et al. (2012), and Tai and Fung (1997) confirm that atmospherics have a profound impact on customers' experience and behavior. Kotler (1973) defines atmospherics as a conscious designing of space to create certain buyer effects. Key techniques include applying suitable color, lighting, music, and décor to a service environment (Koo and Ju, 2010; Ong et al., 2012; Tai and Fung, 1997). In the restaurant context, Liu and Jang (2009) find that atmospherics affect diners' positive and negative emotions. Thus, this study hypothesizes that atmospherics affect diners' positive and negative emotions when dining at luxury restaurants:

H3a: Diners' perceptions of a luxury restaurant's atmospherics have a positive effect on positive emotions.

H3b: Diners' perceptions of a luxury restaurant's atmospherics have a negative effect on negative emotions.

Fourth, in retail settings and luxury goods consumption scenarios, the direct and indirect influences of other consumers have been documented (Baker and Cameron, 1996; Brocato et al., 2012; Berthon et al., 2009). When measuring this stimulus, other customers' appearances, behaviors, and interactions with others (e.g., service staff and other customers) have often been considered. Like other types of service

environments and restaurants, luxury restaurants serve multiple diners. Wu and Liang's (2009) study on luxury restaurants confirms that diners are influenced by other diners and that they sometimes interact with one another. For this reason, it is likely that diners' emotions are affected by these interactions. Based on the aforementioned research, this study proposes the following hypotheses:

H4a: Diners' perceptions of a luxury restaurant's other customers have a positive effect on positive emotions.

H4b: Diners' perceptions of a luxury restaurant's other customers have a negative effect on negative emotions.

According to Oliver (1999), loyalty can be defined as a deeply held commitment to repurchase or repatronize a preferred product or service consistently in the future. In the context of this study, loyalty refers to diners' intentions to repeatedly revisit the same restaurant. In studying restaurant customers and casino patrons, Jang and Namkung (2009) and Jeon and Hyun (2012) find that positive emotions or satisfaction with a product can lead to higher levels of loyalty. In other words, customers with high levels of positive emotions are more likely to become repeat customers and are more likely to recommend a product or business to friends and family. Regarding the influence of negative emotions, Liu and Jang's (2009) research on Chinese diners shows that negative emotions can negatively influence customer loyalty. In other words, customers who experience high levels of negative emotions are less likely to recommend or revisit the same restaurant in the future. Based on the above research, the current study examines the following hypotheses:

H5a: Diners' positive emotions have a positive effect on their loyalty toward restaurants.

H5b: Diners' negative emotions have a negative effect on their loyalty toward restaurants.

In addition to the variables mentioned above, this study incorporates customers' expectations into its proposed framework. According to Devlin et al. (2002),

expectations are what customers feel they should be offered. Customers' expectations are a key variable affecting the consumption process of service goods, such as casino visits, restaurant patronage, and travel agency visits (e.g., Ryan and Cliff, 1997; Wong and Dioko, 2013; Yi and La, 2004). Studies by Ryan and Cliff (1997), Wong and Dioko (2013), and Yi and La (2004) discuss the implications of expectations and their impact on service goods consumption behavior. Although expectations have not been considered by previous scholars researching luxury restaurants, Wong and Dioko's (2013) findings show that customers' expectations (i.e., high or low) can moderate perceived performance and customers' levels of satisfaction.

Kincaid et al. (2010) highlight the importance of diners' expectations in the hospitality industry. According to Kincaid et al. (2010), restaurants must address customers' expectations effectively to improve a restaurant's competitive advantage and influence diners' intentions to revisit. Harrington et al. (2011) find that expectations are one of the most important factors affecting the frequency of diners' visits. Moreover, the authors propose that expectations can moderate diners' visiting frequency. Understanding diner expectations can therefore allow practitioners to improve their performance (e.g., sales and customer retention). Previous scholars suggest that a restaurant's stimuli are created by the restaurant. Conversely, expectations precede customers' consumption experiences.

In luxury restaurant consumption scenarios, some customers will have higher expectations (e.g., those who rarely visit luxury restaurants), whereas others will have lower expectations because they visit luxury restaurants frequently. Based on the literature on customer expectations and luxury goods consumption, this study hypothesizes that diners' emotions will be more significantly influenced by a restaurant's stimuli when the diners have higher expectations. Furthermore, the emotions of diners with higher expectations will influence their responses (i.e., loyalty)

more significantly than will the emotions of diners with lower expectations:

H6: Diners' expectation levels (i.e., high or low) moderate the path from stimuli to emotions, then to responses. Specifically, relationships among stimuli, organisms (emotions), and responses are stronger for the high-expectation group than for the low-expectation group.

## **Methodology**

### *Qualitative pretests*

Prior to the main study, qualitative research was conducted for exploratory purposes in the form of focus groups. The purpose of this exploratory research was to improve the quality of the quantitative research, formulate a more concrete definition of "luxury restaurant," and develop an instrument that reflected diners' actual experiences. Four focus groups, each with six participants, were formed. A purposive sampling method was used to recruit participants (Shankar et al., 2001). All of the participants had dined at Taiwan's five-star hotels' full-service, luxury restaurants at least once a month. According to Wu and Liang (2008), these restaurants are suitable because they are subject to stringent inspection, customers' high expectations, and competition from nearby luxury hotels and restaurants.

During the first part of each focus group discussion session, participants shared their luxury restaurant dining experiences with one another and focused on how environmental stimuli affected their emotions. A set of semi-structured questions was prepared based on the findings of the existing literature (Peng and Chen, 2012) (Appendix 1). These questions were used to initiate the discussion and when participants needed some direction (Hackley, 2003). Each focus group worked for approximately 60 to 90 minutes. The sessions were audio recorded in Mandarin and subsequently transcribed. The transcripts were analyzed using an interpretive approach.

By examining the participants' feedback, this study's definition of luxury

restaurants and its framework can be used to describe the participants' experiences. Based on the respondents' feedback, the operational definition of luxury restaurants in Taiwan consists of the following criteria: 1) full-service restaurants serving main courses at an average price above \$30; 2) a set meal's average price is above \$67 (excluding service charge and tips), and 3) restaurants are located within five-star international hotel chains (e.g., Hilton and Hyatt Regency). Additionally, the focus group participants suggested that only customers who dined mainly for leisure purposes should be included in the main quantitative study. In addition to defining "luxury restaurant," this study's proposed framework described Taiwanese diners' experiences. In other words, restaurant stimuli and diner expectations were relevant to diners' emotions (i.e., organisms) and loyalty (i.e., responses). During the second half of each session, copies of the main study's survey were shown to focus group participants to improve the quality of the quantitative study. Participants commented on issues such as the clarity of the questions and the layout of the survey. They suggested that researchers eliminate redundant questions and add questions that had not been included. The above procedures were adopted after considering the research of Peng and Chen (2012), Hung et al. (2011), Hung et al. (2014), Jang and Namkung (2009), Lee and Hwang (2011), and Wu and Liang (2009).

#### *Sampling and data collection methods for the quantitative studies*

Following the qualitative research, a pilot test was conducted to determine the reliability and content validity of this study's survey. The pilot test sample (n=111) of real diners who self-reported having an interest in dining at luxury restaurants was collected in Taipei City and New Taipei City. A purposive sampling method was used to collect the data. The interviews took place near the hotels and restaurants during dining times to increase the chances of meeting participants who had dined at one of

the luxury restaurants. Trained interviewers randomly selected individuals leaving the restaurants after dining. Customers were asked to participate in the survey on a voluntary basis. Factor analyses were conducted to reduce items with loadings below 0.4 or items that cross-loaded on more than one factor (Huang and Hsu, 2009). The following two items were removed: “Restaurant’s background music is pleasing” and “I feel refreshed (refreshed, cool).”

Once the survey was finalized, 440 participants were recruited through an onsite purposive sampling method. The survey was conducted across six consecutive weeks. The interviews were conducted near the hotels during weekend dining times to increase the chances of meeting participants who had dined at one of the luxury restaurants. Using an interception technique, trained interviewers randomly selected individuals who had finished dining and were leaving the restaurants. Based on King et al.’s (2010) recommendation, the most appropriate time to evaluate emotions is during or immediately after exposure to a stimulus. Customers were asked to participate in the survey on a voluntary basis. The data used for this study were collected from 22 luxury restaurants in Taipei City, New Taipei City, Taichung City, and Kaohsiung City’s five-star hotels. According to the Taiwan Tourism Bureau’s (2012) “Hotel Class Appraisal System,” 36 out of Taiwan’s 63 five-star hotels are located in these four cities.

To qualify for the interview, potential participants had to 1) be above the age of 18 and 2) have dined at luxury restaurants for leisure purposes. Before the interview, the interviewers explained the purpose of the research and the definition of a luxury restaurant used in this study. Among the gathered surveys, 310 surveys were deemed effective, resulting in a valid return rate of 70.4%. The demographic breakdowns of the sample set can be found in Table 1.

\*Table 1.about here.



### *Questionnaires used in the main study*

Participants completed a 25-question survey that included four items for food quality (stimulus), three items for service quality (stimulus), three items for other customers (stimulus), three items for atmospherics (stimulus), three items for diners' positive emotions (organism), three items for diners' negative emotions (organism), three items for diner expectation, and three items for loyalty (response). The target research question under examination was: "How will customers' expectations and luxury restaurants' dining environment influence customers' emotions and loyalty?" All of the variables in the model (Figure 1) were measured using multiple items and were found to be reliable with Cronbach's alphas ranging from 0.81 to 0.96. Unless otherwise indicated, a seven-point Likert-type scale was used when designing the items. The items for each variable are presented in Table 2.

### **Data Analysis**

#### *Factor analysis*

IBM SPSS AMOS 20 was used to analyze the data. The whole sample (n=310) was randomly split into two halves, one as a calibration sample (n=142) and the other as a validation sample (n=168) (Huang and Hsu, 2010). As a general procedure, EFA was first used to identify the underlying structure of a research's construct. Then, CFA was used to test whether the structure could form an acceptable measurement model for the construct, with modifications and adjustments when necessary.

An EFA was conducted on half this study's calibration sample (n=142) using the principal component method with varimax rotation to determine the dimensions of the scale (Anderson and Gerbing, 1988). After using EFA, the factor structure of this research's model is deemed reliable using Bartlett's  $\chi^2$  test, the KMO test and Cronbach's alpha (Lehto et al., 2004). After EFA, four factors were extracted from

items within stimuli, two factors from emotions, and one single factor from loyalty. The Cronbach's alpha of all constructs was above 0.70, indicating satisfactory reliability for the overall scale and all of the extracted factors (Table 2).

\*Table 2 about here

#### *Measurement model*

CFA was carried out after the EFA (N=168). Based on the CFA results, this research analyzed convergent validity, discriminant validity, and composite reliability of all the multi-item scales, following the guidelines from previous literature (Fornell and Larcker, 1981). The results can be found in Tables 3 and 4. First, the composite reliability of the research constructs, indicating the internal consistency of multiple indicators for each construct, ranged from 0.82 to 0.96. This exceeds the recommended threshold outlined by Bagozzi and Yi (1988). Second, convergent validity was assessed in terms of factor loadings and average variance extracted (AVE). According to Fornell and Larcker (1981), AVE is the average variance shared between a construct and its measurement. As shown in Table 3, the factor loadings of all items were higher than 0.60 and AVE values ranged from 0.57 to 0.80; hence, convergent validity was confirmed (Fornell and Larcker, 1981).

\*Please insert Table 3 here

Third, discriminant validity was assessed by comparing the AVE of each individual construct with shared variances between this individual construct and all the other constructs. Because the AVE value for each construct was greater than the squared correlation between constructs, discriminant validity was achieved (Table 4). After CFA was performed based on Bagozzi's (1983) and Kline's (2005) recommendations, this research's variables, composite reliability, convergent validity, and discriminant validity were acceptable; therefore, the items were suitable for using the average of each factor.

\*Please insert Table 4 here

#### *Measurement model fit*

The results gathered using structural equation modeling show a good fit ( $\chi^2=598.69$ ,  $df=193$ ,  $\chi^2/df=3.1$ ;  $p<0.001$ , RMSEA=0.08, CFI= 0.92, NFI= 0.89, TLI=0.91). In other words, the results of this study provide support for the proposed framework. Regarding the hypotheses, H1a is not supported with structural estimates of 0.11 ( $t=0.76$ ,  $p>0.05$ ). H1b is supported with structural estimates of -0.62 ( $t=-4.01$ ,  $p<0.001$ ). This means that a restaurant's food quality does not significantly affect diners' positive emotions, but it has a significant influence on diners' negative emotions. H2a and H2b are supported with structural estimates of 0.60 ( $t=4.84$ ,  $p<0.001$ ) and -0.26 ( $t=-2.12$ ,  $p<0.01$ ), respectively. In other words, service quality influences diners' positive and negative emotions. This study's findings support H3a; however, H3b is not supported. The structural estimates are 0.33 ( $t=2.96$ ,  $p<0.01$ ) and 0.10 ( $t=.85$ ,  $p>0.05$ ), respectively. This means that atmospherics have a significant impact on diners' positive emotions but not on their negative emotions. For H4a and H4b, this study's findings support the latter but not the former. Other customers do not contribute to diners' positive emotions; however, they may contribute to their negative emotions. The structural estimates are -0.10 ( $t=0.85$ ;  $p>0.05$ ) and -0.12 ( $t=-1.89$ ;  $p<0.05$ ), respectively. Finally, both H5a and H5b are supported. The structural estimates are 0.34 ( $t=7.64$ ,  $p<0.01$ ) and -0.49 ( $t=-10.36$ ,  $p<0.01$ ), respectively. This means that both positive and negative emotions affect diners' loyalty toward luxury restaurants (Table 5).

\*Please insert Table 5 here

#### *Mediating effect*

Jang and Namkung's (2009) research found that emotions mediate the

relationship between service quality and loyalty and partially mediate the relationship between atmospherics and behavioral intention. They also found that emotions fully mediate the relationship between product quality and loyalty. Based on their research's findings, a Sobel test was performed to determine the mediating effects of organisms (i.e., diners' positive and negative emotions) on restaurants' stimuli (i.e., food quality, service quality, atmospherics, and other customers) and loyalty (Sobel, 1982). Based on the results (i.e.,  $Z > 1.96$ ), diners' positive emotions fully mediate the relationships between food quality and loyalty and atmospherics and loyalty. As for diners' negative emotions, they fully mediate the relationships between service quality and loyalty and other customers' influences and loyalty. In addition, negative emotions serve as a partial mediator for food quality and loyalty (Table 6).

\*Please insert Table 6 here

#### *Moderating effect*

To test the hypothesized moderating effects of customers' expectations, an invariance analysis of different groups was applied (Jurosowski and Gursay, 2004) using the procedure recommended by Han et al. (2010) and Bell and Menguc (2002). Through the above procedures, the participants were divided into two groups (i.e., high and low expectations) based on their scores. In other words, participants ( $n=310$ ) were put in order from highest to lowest according to their expectation level. Those who scored higher than the average were labeled as the high expectation group ( $N=153$ ), and those who scored below the average were labeled the low expectation group ( $N=157$ ).

Initially, the structural models for the high and low expectation groups were estimated without across-group constraints (i.e., unconstrained models;  $\chi^2=974.47$ ); they were then measured with across-group constraints (i.e., constrained model;  $\chi^2=981.0$ ), where the parameter estimates for high and low expectation groups were

constrained to be equal. Finally, a  $\chi^2$  test comparing the unconstrained and constrained models was used to detect moderating effects. The results show there are some differences between diners with high and low expectations in terms of luxury restaurant consumption behavior.

Specifically, this study's proposed model applies to consumers with high and low levels of expectation except in two areas. First, for diners with lower levels of expectation, service quality does not affect their negative emotions; however, it does influence diners with high levels of expectation. Second, for diners who have high expectations, atmospherics do not affect their positive emotions, but they do influence diners with lower levels of expectation. The next section will discuss some of the implications of this study and its contributions to the literature.

## **Discussion**

This study examines the influence of luxury restaurants' stimuli and customers' expectations on diners' emotions and loyalty using a modified M-R model. The results of the data analysis support this study's proposed framework. Luxury restaurants' stimuli significantly influence organisms (diners' positive and negative emotions), which in turn affect diners' subsequent responses (i.e., loyalty). Most importantly, the results of this study confirm that customers' expectations (i.e., high or low) moderate the relationship between restaurants' stimuli and diners' emotions.

This study's findings are generally consistent with the hospitality and service consumption literature; on the other hand, it also provides some additional contributions to the literature. The current research contributes to the hospitality management literature because it is one of the first to examine the moderating effect of customers' expectations in a restaurant consumption context. In addition, it sheds new light on the hospitality management literature by considering the influences of other diners. Last but not least, the results of this study show that positive and

negative emotions affect diners' loyalty toward restaurants differently. In the following sections, the findings of this study will be further elaborated.

*Theoretical implications: The influence of emotions*

The hospitality and service management literature has consistently supported the idea that positive emotions can positively affect loyalty; however, there are fewer discussions in the literature concerning the influence of negative emotions.

Furthermore, the findings concerning this relationship have been inconsistent in the available literature. For instance, Liu and Jang's (2009) research supports this relationship, whereas Jang and Namkung's research (2009) does not.

This study aligns with Liu and Jang's (2009) finding that negative emotions significantly influence customer loyalty. This result has three possible explanations: (1) in the Taiwanese cities examined in this study, there are several luxury restaurants, and participants can choose which of these restaurants to patronize. Because they have several choices, diners will be less likely to revisit or recommend a restaurant after experiencing negative emotions (e.g., disgust, irritation, disappointment). (2) Luxury restaurants are more expensive than other types of restaurants. Therefore, diners are unlikely to revisit or recommend a luxury restaurant if they experience negative emotions after their visit. (3) This study used trained interviewers to interview participants while leaving the hotel premises, which may have influenced their responses. Jang and Namkung (2009) used restaurant staff to collect data as diners finished their meals. According to Jang and Namkung, this procedure may have caused their participants to refrain from expressing negative emotions.

Another issue related to the presence of both positive and negative emotions in this study's framework is that the findings confirm that both types of emotions are significant when determining diners' loyalty toward luxury restaurants. By following Jang and Namkung's (2009) and Liu and Jang's (2009) unipolar approach to emotions

(i.e., positive and negative emotions coexist) rather than the traditional M-R model's bipolar approach (either positive or negative emotions), this study shows that positive and negative emotions both influence loyalty and that restaurant stimuli affect diners' positive and negative emotions differently. Furthermore, the correlation between these two variables is below 0.5. Therefore, positive and negative emotions are not the same construct.

#### *Theoretical implications- the effects of stimuli*

Because this study examines positive and negative emotions separately, the effects of stimuli can provide a more elaborate insight to the factors that affect organisms. First, other diners' positive behaviors and attitudes do not contribute to diners' positive emotions, but other diners' poor manners and rude behavior may contribute to diners' negative emotions. Previous studies have focused primarily on the positive aspect of interactions between customers. Their results generally suggest a positive relationship between customers' interactions and satisfaction/experience (e.g., Baker and Cameron, 1996; Brocato et al., 2012; Wu and Liang, 2009). The findings of the current research add new insight into the existing literature on the service environment and encounters. A possible explanation is that diners expect others to exhibit good behavior (e.g., good manners and politeness) because luxury restaurants are usually more expensive and exclusive than other types of restaurants. Thus, diners will not experience positive emotions simply because other customers are behaving nicely, but they will experience negative emotions if other customers are behaving poorly.

Second, similar to the influence of other diners, this study finds that superior food quality does not contribute to diners' positive emotions. However, inferior food quality may cause diners to have negative emotions. As documented in previous hospitality management studies, fresh and healthy food is a standard requirement of

restaurants (e.g., Jang and Namkung, 2009; Ryu et al. 2012). Therefore, diners will not be pleased simply because the food is fresh. This claim can be extended to the field of luxury restaurants. When customers visit a luxury restaurant in a five-star hotel, well-presented, delicious, and fresh food is not sufficient to improve diners' positive emotions; however, food that is not fresh or not tasty will cause diners to feel angry and disgusted because it may cause illness. Additionally, luxury restaurants are more expensive than other types of restaurant. Thus, it is reasonable for diners to experience negative emotions if the food and beverages are poorly presented.

Third, service quality is the only stimulus that affects both positive and negative emotions. This finding reconfirms the prominence of service quality in the context of restaurants. In other words, service personnel's knowledge about the restaurant (e.g., the menu and wine list), their willingness to take extra steps to assist customers, and their reliability may affect diners' positive and negative emotions. This study's findings on service quality are aligned with the existing retail, service, and hospitality literature (e.g., Kwun and Oh, 2006; Lee and Hwang, 2011; Wu and Liang, 2009).

Fourth, this result supports the findings of the literature on the significance of managing a retail environment by improving its atmospherics, such as interior design and decoration (Breiter and Milman, 2006; Kaltcheva and Weitz, 2006; Koo and Ju, 2010; Ong et al., 2012; Tai and Fung, 1997). Interestingly, the results of this study do not support the contention that inferior atmospherics contribute to diners' negative emotions. Based on the findings of the previous literature and the feedback obtained from focus group participants prior to the main quantitative study, five-star hotels' restaurants are subject to intense competition from nearby restaurants, and their atmospherics are often carefully crafted by respected designers. Therefore, it is less likely that the atmospherics of luxury restaurants will be inferior to the point where diners will feel angry and disgusted.



### *Theoretical implications- The moderating effect of customers' expectations*

The results of this study show that diners with high and low levels of expectation react to stimuli differently in two areas. First, for diners with low levels of expectation, luxury restaurants' service quality does not affect their negative emotions. However, service quality does affect the negative emotions of diners with high levels of expectation. Second, for diners with high levels of expectation, atmospherics do not affect their positive emotions, but they do affect the positive emotions of diners who expect less from luxury restaurants. This paper provides some potential explanations for these differences.

For diners who have lower levels of expectation, there are several possible explanations for the insignificant relationship between inferior service quality and negative emotions. One explanation is that diners with low levels of expectation have a higher tolerance for inferior service. Thus, good service contributes to their positive emotions, but inferior service does not significantly cause them to experience negative emotions. Second, because the staff at luxury restaurants is usually well trained (e.g., Wu and Liang, 2009; Lee and Hwang, 2011), diners with lower levels of expectation may find luxury restaurants' service acceptable even when it is not as superior as it should be.

For diners with high levels of expectation, the insignificant relationship between atmospherics and positive emotions requires further exploration. By considering existing luxury goods consumption literature, this research suggests that this insignificant relationship exists because these diners may have overinflated expectations of a restaurant's décor and aesthetics. This finding is further influenced by the common perception that luxury restaurants' atmospherics should be superior to other types of restaurants. Based on the above inferences, diners with high levels of expectation may not experience positive emotions because a restaurant's atmospherics

are good. However, there are few previous results available, and the explanations proposed by this study require further exploration.

The results of this study agree with those of previous studies that suggest that expectations moderate customers' buying behaviors (Harrington et al., 2012; Kincaid et al. 2010; Ryan and Cliff, 1997; Wong and Dioko, 2013; Yi and La, 2004). Nevertheless, this study is one of the first to examine the moderating effect of expectations on diners' luxury restaurant consumption behavior using a modified M-R model. The results of this study show the scope of expectation's ability to moderate the influence of restaurant stimuli on diners' emotions.

#### *Managerial implications*

In addition to theoretical contributions, this study provides several managerial implications. The findings of this study can help restaurant managers and owners increase customer loyalty by carefully assessing their restaurants' environments. In the context of luxury restaurants, service quality appears to be the most influential factor affecting diners' positive and negative emotions, followed by diners' loyalty toward the restaurant. The knowledge of the service staff (e.g., knowing which wine is suitable for which dish) is one factor that may influence diners' perceptions of service quality. Investing in training programs and hiring staff from other well-established restaurants (e.g., Michelin-starred restaurants) are two methods for improving a restaurant's service quality.

Because this study is one of the first to examine the influence of other diners, the findings of this study may have some importance to practitioners. Although other customers' attitudes and behaviors influence diners' negative emotions, it is difficult for restaurants to manage this factor. If possible, managers and staff should ensure that there is a sufficient amount of space between tables. The availability of private dining rooms affording diners their own space may ameliorate diners' negative

influence on one another. If space is limited, managers should consider arranging customers' seating based on the size of their party (e.g., large versus small parties) and the composition of the party (e.g., whether there are infants/young children).

Rearranging a restaurant's interior space and installing a booking system that helps staff seat customers according to their needs are two potentially useful methods for improving diners' experiences.

Managers must pay attention to a restaurant's atmospherics, such as hiring distinguished professionals to handle interior design, which may contribute to diners' positive emotions. The purpose is to create a feeling of excitement, joy, and peace. Using custom furniture designed by reputable designers who specialize in luxurious environments will also contribute to a restaurant's atmospherics. The use of music and scent can likely further contribute to the creation of a desired atmospherics. This is an area in which restaurants can easily highlight their uniqueness and differentiate themselves from their competitors.

Furthermore, the findings suggest that restaurant managers should ensure that food quality meets a high standard. Based on this study's findings, superior food quality will not increase diners' positive emotions, but inferior food quality may cause negative emotions. Furthermore, food quality is the only factor that can directly affect diners' loyalty. This fact demonstrates the importance of food quality to luxury restaurants. Having dishes with high nutritious value and healthy ingredients can enhance diners' perception of food quality (Ryu et al., 2012). Restaurants can inform diners if their ingredients are organic and freshly purchased from reputable farmers, butchers, and fishmongers, which may enhance diners' perceptions of the food's freshness. It should be noted that food quality includes not only the freshness and nutritional value of food and beverages but also the presentation of the food. Serving food with luxurious dinnerware and cutlery made by skilled craftsmen may create a

competitive advantage. In addition, sending chefs to competitions and training schools (e.g., lessons offered by Le Cordon Bleu Culinary Arts Institute) may positively affect luxury restaurants' food quality.

Differentiating between diners with high and low levels of expectations is a difficult task, but it may yield rewards. As this study shows, diners with high and low expectations react to stimuli slightly differently. Differentiating customers' levels of expectations is possible if the customers are repeat customers and the restaurant is equipped with a suitable marketing information system for data mining. For five-star hotels and luxury restaurants that have membership schemes, restaurants can ask diners to complete surveys and feedback forms after their meals. After storing and analyzing this information, the restaurants may obtain insight into different customers' levels of expectation, preferences, and loyalty. Based on this information, restaurant managers can identify which group constitutes the majority and adjust their levels of service and atmospherics accordingly.

Alternatively, managers, supervisors, and chefs can interact with diners to learn more about their characteristics (e.g., their expectation of the current visit). Experienced staff should be able to adjust restaurants' offerings accordingly once they determine whether diners have high or low expectations. Food quality (e.g., nutritional value) is not as important as atmospherics (e.g., lighting and music) for customers with low expectations. Thus, staff should ensure these diners will be seated in areas where they can enjoy the restaurants' atmospherics. For diners who have high expectations, food quality will be highly important. Staff should remind their chefs to creatively display food, and use superior ingredients with high nutritional value when serving diners with high expectations.

### **Limitations, Future Studies, and Conclusion**

This study narrows the gap in the luxury goods consumption literature by

examining diners' luxury restaurant consumption behavior through a modified M-R model. As stated earlier, the luxury goods market and the restaurant industry have both experienced significant growth since the mid-1990s. However, few scholars have examined the consumption of luxury services. The results of this study contribute to the hospitality literature and practice in four ways. First, this study's proposed model can describe diners' luxury restaurant consumption experiences. Previous luxury goods consumption research has focused primarily on physical goods rather than intangible services. Second, this research incorporates a diner expectation variable into a modified M-R model. The results revealed that diner expectation can moderate diners' luxury restaurant consumption behavior. Third, this study considered and confirmed that customers influence diners' emotions. Few hospitality management studies have explored the effect of this factor. Fourth, the managerial implications for practitioners are considered to help them formulate better business strategies.

This study has several limitations. First, due to the participants' demographic backgrounds and the restaurants' characteristics, this study emphasizes intermediate and accessible luxury goods categories, which appeal to middle class, upper-middle class, and professional consumers (Alleres, 1990). It would be interesting to explore whether this study's model can explain diners' consumption behaviors at luxury restaurants that are even more exclusive. Second, this study examined restaurants serving various ethnic cuisines (e.g., Chinese, European, and Japanese). Unfortunately, the number of participants in each group was too small for independent analysis and comparison. Future research should explore whether this study's model is more applicable to restaurants of particular cultural origins than others. Third, this study does not consider specific dining scenarios, such as dining alone, with family or with large parties. Future studies can contribute to the leisure and hospitality literature by exploring different luxury restaurant consumption scenarios. Finally, future studies

should examine organism-related variables when examining individuals' reactions to stimuli.

## References

- Alleres, D. (1990), *Luxe-Strategies Marketing*, Economica: Paris.
- Anderson, J.C. and Gerbing, D.W. (1988), "Structural equation modelling in practice: A review and recommended two-step approach", *Psychological Bulletin*, Vol.103, No.3, pp.411-423.
- Bagozzi, R. (1983), "A holistic methodology for modelling consumer response to innovation", *Operations Research*, Vol.31, pp.128-176.
- Bagozzi, R. and Yi, Y. (1988), "On the evaluation of structural equation model", *Journal of the Academy of Marketing Science*, Vol.16, No.1, pp.74-94.
- Baker, J. and Cameron, M. (1996), "The effects of the service environment on affect and consumer perception of waiting time: An integrative review and research propositions", *Journal of the Academy of Marketing Science*, Vol.24, No.4, pp.338-349.
- Bell, S. and Menguc, B. (2002), "The employee-organization relationship, organizational citizenship behaviors, and the superior service quality", *Journal of Retailing*, Vol.78, No.2, pp.131-146.
- Berthon, P.R., Pitt, L., Parent, M. and Berthon, J-P. (2009), "Aesthetics and ephemerality: Observing and preserving the luxury brand", *California Management Review*, Vol.52, No.1, pp.45-66.
- Breiter, D. and Milman, A. (2006), "Attendees' needs and service priorities in a large convention center: Application of the importance-performance theory", *Tourism Management*, Vol.27, No.6, pp.1364-1370.
- Brocato, E.D., Voorhees, C.M. and Baker, J. (2012), "Understanding the influence of cues from other customers in the service experience: A scale development and validation", *Journal of Retailing*, Vol.88, No.3, pp.384-398.
- Chadha, R. and Husband, P. (2007), *The Cult of the Luxury Brand: Inside Asia's Love Affair with Luxury*, Nicholas Brealey International: London.
- Devlin, J.F., Gwynne, A.L. and Ennew, C.T. (2002), "The antecedents of service expectations", *Service Industries Journal*, Vol.22, pp.117-136.
- Fornell, C. and Larcker, D. (1981), "Evaluating structural equation models with unobservable variables and measurement errors", *Journal of Marketing Research*, Vol.18, No.1, pp.39-50.
- Gardyn, R. (2002), "Oh, the good life", *American Demographics*, Vol.24, No.10, pp.31-35.
- Hackley, C. (2003). *Doing Research Projects in Marketing, Management and Consumer Research*. Routledge: London.
- Han, Y.J., Nunes, J.C. and Dreze, X. (2010), "Signaling status with luxury goods: The role of brand prominence", *Journal of Marketing*, Vol.74, No.4, pp.15-30.

- Han, H., Back, K-J. and Barrett, B. (2009), "Influencing factors on restaurant customers' revisit intention: The roles of emotions and switching barriers", *International Journal of Hospitality Management*, Vol.28, No.4, pp.563-572.
- Harrington, R.J., Ottenbacher, M.C. and Kendall, K.W. (2011), "Fine-dining restaurant selection: Direct and moderating effects of customer attributes", *Journal of Foodservice Business Research*, Vol.14, No.3, pp.272-289.
- Huang, S(S). and Hsu, C.H.C. (2009), "Effects of travel motivation, past experience, perceived constraint, and attitude on revisit intention", *Journal of Travel Research*, Vol.48, No.1, pp.29-44.
- Hung, K-P, Chen, A.H., Peng, N., Hackley, C., Tiwsaku, A.R. and Chou, C-l. (2011), "Antecedents of luxury brand purchase intention", *Journal of Product & Brand Management*, Vol.20, No.6, pp.456-467.
- Hung, K-p., Chen, A. and Peng, N. (2014), "Taking dogs to tourism activities: Incorporating attachment into a pet-related constraint-negotiation model", *Journal of Hospitality and Tourism Research*, DOI: 10.1177/1096348013503992.
- Jang, S(S). and Namkung, Y. (2009), "Perceived quality, emotions, and behavioural intentions: Application of an extended Mehrabian-Russell model to restaurants", *Journal of Business Research*, Vol.62, No.4, pp.451-460.
- Jurowski, C. and Gursoy, D. (2004), "Distance effects on residents' attitudes toward tourism", *Annals of Tourism Research*, Vol.31, No. 2, pp.296-312.
- Jeon, S.M. and Hyun, S.S. (2012), "Examining the influence of casino attributes on baby boomers' satisfaction and loyalty in the casino industry", *Current Issues in Tourism*, Vol.16, No.4, pp.343-368.
- Jolson, M.A., Anderson. R.E. and Leber, N.J. (1981), "Profiles of signature goods consumers and avoiders", *Journal of Retailing*, Vol.57, No. 4, pp.19-38.
- Kaltcheva, V.D. and Weitz, B.A. (2006), "When should a retailer create an exciting store environment", *Journal of Marketing*, Vol.70, No.1, pp.107-118.
- Kincaid, C., Baloglu, S., Mao, Z. and Busser, J. (2010), "What really brings them back? The impact of tangible quality on affect and intention for casual dining restaurant patrons", *International Journal of Contemporary Hospitality Management*, Vol.22, No.2, pp.209-220.
- King, S.C. and Meiselman, H.L. (2010), "Development of a method to measure consumer emotions associated with foods", *Food Quality and Preference*, Vol.21, No.2, pp.168-177.
- King, S.C., Meiselman, H.L. and Carr, B.T. (2010), "Measuring emotions associated with foods in consumer testing", *Food Quality and Preference*, Vol.21, No.8, pp.1114-1116.



- Kline, R.B. (2005), *Principles and Practices of Structural Equation Modeling (2<sup>nd</sup>)*. New York, NY: The Guilford Press.
- Koo, D-M. and Ju, S-H. (2010), "The interactional effects of atmospherics and perceptual curiosity on emotions and online shopping intention", *Computers in Human Behavior*, Vol.26, No.3, pp.377-388.
- Kotler, P. (1973), "Atmospherics as a marketing tool", *Journal of Retailing*, Vol.49, No.4, pp.48-64.
- Kwun, D.J-W. and Oh, H. (2006), "Past experience and self-image in fine dining intentions", *Journal of Foodservice Business Research*, Vol.9, No.4, pp.3-23.
- Lee, J.H. and Hwang, J. (2011), "Luxury marketing: The influences of psychological and demographic characteristics on attitudes toward luxury restaurants", *International Journal of Hospitality Management*, Vol.30, No.3, pp.658-669.
- Lehto, X., O'Leary, J. and Morrison, A. (2004), "The effect of prior experience on vacation behaviour", *Annals of Tourism Research*, Vol.31, pp.801-818.
- Liu, Y. and Jang, S(S). (2009), "The effects of dining atmospherics: An extended Mehrabian-Russell model", *International Journal of Hospitality Management*, Vol.28, No.4, pp.494-503.
- Mehrabian, A. and Russell, J.A. (1974), *An Approach to Environmental Psychology*. Cambridge, MA: MIT Press.
- Mintel. (2011), "Luxury goods retailing- Global- August 2011", available at: [http://academic.mintel.com/sinatra/oxygen\\_academic/search\\_results/show&&type=RCItem&sort=relevant&access=inaccessible&archive=hide&list=search\\_results/display/id=545367](http://academic.mintel.com/sinatra/oxygen_academic/search_results/show&&type=RCItem&sort=relevant&access=inaccessible&archive=hide&list=search_results/display/id=545367) (accessed June 10 2011).
- Nueno, J.L and Quelch, J.A. (1998), "The mass marketing of luxury", *Business Horizons*, Vol.41, No.6, pp.61-68.
- Oliver, R.L. (1999), "Whence consumer loyalty?", *Journal of Marketing*, Vol.63, pp.33-44.
- Ong, F.S. and Khong, K.W. (2011), "The effects of mall atmospherics and convenience on flow: A study of shoppers in Malaysia", *The Business & Management Review*, Vol.1, No.2, pp.78-87.
- Ong, F.S., Khong, K.W., Faziharudean, T.M. and Dai, X. (2012), "Path analysis of atmospherics and convenience on flow: The mediation effect of brand affect and brand trust", *The International Review of Retail, Distribution and Consumer Research*, Vol.22, No.3, pp.277-292.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988), "Servqual: A multiple-item scale for measuring consumer perceptions of service quality", *Journal of Retailing*, Vol.64, No.1, pp.12-40.

- Peng, N. and Chen, A.H. (2012), "Consumer perspectives of cultural branding: The case of Burberry in Taiwan", *Journal of Brand Management*, Vol.19, pp.318-330.
- Roberts, F. (2012), "Luxury remains resilient in the face of economic turbulence", available at <http://blog.euromonitor.com/2012/10/luxury-remains-resilient-in-the-face-of-economic-turbulence.html> (accessed October 13 2012).
- Ryan, C. and Cliff, A. (1997), "Do travel agencies measure up to customer expectation? An empirical investigation of travel agencies' service quality as measured by SERVQUAL", *Journal of Travel and Tourism Marketing*, Vol.6, No.2, pp.1-31.
- Ryu, K., Han, H. and Jang, S(S). (2010), "Relationships among hedonic and utilitarian values, satisfaction and behavioural intentions in the fast-casual restaurant industry", *International Journal of Contemporary Hospitality Management*, Vol.22, No.3, pp.416-432.
- Ryu, K., Lee, H-R. and Kim, G. (2012), "The influence of the quality of the physical environment, food, and service on restaurant image, customer perceived value, customer satisfaction, and behavioral intentions", *International Journal of Contemporary Hospitality Management*, Vol.24, No.2, pp.200-223.
- Shankar, A., Elliott, R. and Goulding, C. (2001), "Understanding consumption: contributions from a narrative perspective", *Journal of Marketing Management*, Vol.17, pp.429-453.
- Silverstein, M.J. and Fiske, N. (2003), "Luxury for the masses", *Harvard Business Review*, Vol.81, No.4, pp.48-57.
- Sobel, M.E. (1982), "Asymptotic confidence intervals for indirect effects in structural equation models", Leinhardt, S. (Eds.), *Sociological Methodology*. Washington, DC: American Sociological Association, pp.290-312.
- Sullivan, A. (2009), "Luxury brands covet the recession-proof", available at: <http://www.nytimes.com/2008/03/07/style/07iht-mluxe.1.10800096.html> (accessed November 05 2009).
- Tai, S.H.C. and Fung, A.M.C. (1997), "Application of an environmental psychology model to in-store buying behaviour", *The International Review of Retail, Distribution and Consumer Research*, Vol.7, No.4, pp.311-337.
- Taiwan Tourism Bureau. (2012), "Hospitality and Bed and Breakfast Database Management System", available at: <http://hotelhomestay.tboc.gov.tw/index.jsp> (accessed October 31 2012).

- Westbrook, R.A. (1987), "Product/consumption-based affective responses and postpurchase processes", *Journal of Service Marketing*, Vol.24, No.3, pp.258-270.
- Wood, Z. (2009), "Recession? That's so last year. Luxury goods sector is back in fashion", available at:  
<http://www.guardian.co.uk/business/2009/jun/23/luxury-goods-defy-recession>  
 (accessed November 05 2009).
- Wong, I.A. and Dioko, L(D)A.N. (2013), "Understanding the mediated moderating role of customer expectations in the customer satisfaction model: The case of casinos", *Tourism Management*, Vol.36, pp.188-199.
- Wu, C.H-J. and Liang, R-D. (2009), "Effect of experiential value on customer satisfaction with service encounters in luxury-hotel restaurants", *International Journal of Hospitality Management*, Vol.28, pp.586-593.
- Yi, Y. and La, S. (2004), "What influences the relationship between customer satisfaction and repurchase intention? Investigating the effects of adjusted expectations and customer loyalty", *Psychology & Marketing*, Vol.21, No.5, pp.351-373.
- Yuksel, A. (2007), "Tourist shopping habitat: Effects on emotions, shopping value and behaviours", *Tourism Management*, Vol.28, No. 1, pp.58-69.

**Table 1- Characteristics of the participants (N=310)**

|                | Demographic traits            | %     |
|----------------|-------------------------------|-------|
| Gender         | Male                          | 47.4% |
|                | Female                        | 52.6% |
| Occupation     | Service sector                | 23.6% |
|                | Manufacture sector            | 17.2% |
|                | Public sector                 | 21.4% |
|                | Students                      | 12.3% |
|                | Retired                       | 11%   |
|                | Other                         | 14.5% |
| Marital status | Married                       | 57.1% |
|                | Unmarried                     | 42.9% |
| Age            | 18-20                         | 1.3%  |
|                | 21-30                         | 25.2% |
|                | 31-40                         | 44.1% |
|                | 41-50                         | 12.9% |
|                | 51-60                         | 7.1%  |
|                | 61 or above                   | 9.4%  |
| Education      | Lower than high school degree | 2.3%  |
|                | High school degree            | 6.7%  |
|                | University or college degree  | 51%   |
|                | Postgraduate degree or above  | 40%   |

**Table 2 Results from Exploratory Factor Analysis (N=142)**

| Variable                                                           | Measurement items                                          | Factor loading | $\alpha$ | Adopted from                                    |
|--------------------------------------------------------------------|------------------------------------------------------------|----------------|----------|-------------------------------------------------|
| <b><u>Stimuli (S)</u></b> (KMO=0.80; Barlet's $\chi^2= 1229.85$ )  |                                                            |                |          |                                                 |
| Food quality                                                       | 1: Food presentation is visually attractive.               | .69            | .85      | Kwun and Oh (2006);<br>Jang and Numkung (2009)  |
|                                                                    | 2: The restaurant serves tasty food.                       | .79            |          |                                                 |
|                                                                    | 3: The restaurant offers fresh food.                       | .82            |          |                                                 |
|                                                                    | 4: The restaurant offers healthy options                   | .80            |          |                                                 |
| Service quality                                                    | 1: The staffs provide a thorough and satisfactory service. | .86            | .81      | Jang and Numkung (2009);<br>Wu and Liang (2009) |
|                                                                    | 2: The staffs are reliable.                                | .91            |          |                                                 |
|                                                                    | 3: The staffs are professional.                            | .84            |          |                                                 |
| Atmospherics                                                       | 1: Restaurant's decoration is impressive.                  | .83            | .82      | Jang and Numkung (2009);<br>Wu and Liang (2009) |
|                                                                    | 2: Restaurant's interior design is appealing.              | .86            |          |                                                 |
|                                                                    | 3: Restaurant's atmosphere is luxurious.                   | .71            |          |                                                 |
| Other customers                                                    | 1: Other customers are elegant.                            | .93            | .92      | Wu and Liang (2009)                             |
|                                                                    | 2: Other customers have good manners.                      | .93            |          |                                                 |
|                                                                    | 3: It is pleasant to interact with other customers.        | .85            |          |                                                 |
| <b><u>Organisms (O)</u></b> (KMO=0.80; Barlet's $\chi^2= 809.45$ ) |                                                            |                |          |                                                 |
| Positive emotions                                                  | I feel... not at all (1)- Strongly (7)                     |                | .90      | Jang and Numkung (2009);<br>Liu and Jang (2009) |
|                                                                    | 1: Joy (joyful, pleased, romantic, welcoming).             | .88            |          |                                                 |
|                                                                    | 2: Excitement (excited, thrilled, enthusiastic).           | .94            |          |                                                 |
|                                                                    | 3: Peacefulness (comfortable, relaxed, at rest).           | .85            |          |                                                 |
| Negative                                                           | 1: Anger (angry, irritated)                                | .94            | .96      | Jang and Numkung (2009);                        |

|                                                                  |                                                                                                                                                                                                    |     |     |                             |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----------------------------|
| emotions                                                         | 2: Distress (frustrated, disappointed, upset)                                                                                                                                                      | .92 |     | Liu and Jang (2009)         |
|                                                                  | 3: Disgust (disgusted, displeased, bad)                                                                                                                                                            | .94 |     |                             |
| <b>Diner expectations</b> (KMO=0.76; Barlet's $\chi^2= 368.71$ ) |                                                                                                                                                                                                    |     |     |                             |
| Diner expectations                                               | 1: Before my experience with luxury restaurant, I expected that the overall service performance would be... Very poor (1)- Excellent (7)                                                           | .95 | .94 | Wong and Dioko (2003)       |
|                                                                  | 2: Before my experience with luxury restaurant, I expected that its ability to perform the promised service reliably and accurately would be... Extremely incompetent (1)- Extremely competent (7) | .95 |     |                             |
|                                                                  | 3: Before my experience with luxury restaurant, I expected that its ability to meet my personal needs would be... Not at all satisfactory (1)- Extremely satisfactory (7)                          | .93 |     |                             |
| <b>Response (R)</b> (KMO=0.73; Barlet's $\chi^2= 181.24$ )       |                                                                                                                                                                                                    |     |     |                             |
| Loyalty                                                          | 1: I would like to come back to this restaurant in the future.                                                                                                                                     | .87 | .85 | Liu and Jang (2009);        |
|                                                                  | 2: I plan to revisit this restaurant in the future.                                                                                                                                                | .89 |     | Ryu et al. (2010); Jeon and |
|                                                                  | 3: I would recommend this restaurant to my friends or others.                                                                                                                                      | .87 |     | Hyun (2013)                 |

-SFL= Standardized factor loadings;  $\alpha$ = Cronbach's alpha

**Table 3 Results from Confirmatory Factor Analysis (N=168)**

| Variable                              | Measurement items                                                                                                                                                                                  | Factor loading | CR  | AVE |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----|-----|
| <b><u>Stimuli (S)</u></b>             |                                                                                                                                                                                                    |                |     |     |
| Food quality                          | 1: Food presentation is visually attractive.                                                                                                                                                       | .66            | .84 | .57 |
|                                       | 2: The restaurant serves tasty food.                                                                                                                                                               | .76            |     |     |
|                                       | 3: The restaurant offers fresh food.                                                                                                                                                               | .80            |     |     |
|                                       | 4: The restaurant offers healthy options                                                                                                                                                           | .78            |     |     |
| Service quality                       | 1: The staffs provide a thorough and satisfactory service.                                                                                                                                         | .67            | .84 | .64 |
|                                       | 2: The staffs are reliable.                                                                                                                                                                        | .94            |     |     |
|                                       | 3: The staffs are professional.                                                                                                                                                                    | .77            |     |     |
| Atmospherics                          | 1: Restaurant's decoration is impressive.                                                                                                                                                          | .78            | .87 | .69 |
|                                       | 2: Restaurant's interior design is appealing.                                                                                                                                                      | .85            |     |     |
|                                       | 3: Restaurant's atmosphere is luxurious.                                                                                                                                                           | .86            |     |     |
| Other customers                       | 1: Other customers are elegant.                                                                                                                                                                    | .88            | .90 | .76 |
|                                       | 2: Other customers have good manners.                                                                                                                                                              | .92            |     |     |
|                                       | 3: It is pleasant to interact with other customers.                                                                                                                                                | .81            |     |     |
| <b><u>Organisms (O)</u></b>           |                                                                                                                                                                                                    |                |     |     |
| Positive emotions                     | I feel... not at all (1)- Strongly (7)                                                                                                                                                             |                | .93 | .83 |
|                                       | 1: Joy (joyful, pleased, romantic, welcoming).                                                                                                                                                     | .93            |     |     |
|                                       | 2: Excitement (excited, thrilled, enthusiastic).                                                                                                                                                   | .97            |     |     |
|                                       | 3: Peacefulness (comfortable, relaxed, at rest).                                                                                                                                                   | .82            |     |     |
| Negative emotions                     | 1: Anger (angry, irritated)                                                                                                                                                                        | .92            | .95 | .85 |
|                                       | 2: Distress (frustrated, disappointed, upset)                                                                                                                                                      | .95            |     |     |
|                                       | 3: Disgust (disgusted, displeased, bad)                                                                                                                                                            | .90            |     |     |
| <b><u>Diner expectations (CE)</u></b> |                                                                                                                                                                                                    |                |     |     |
| Diner expectations                    | 1: Before my experience with luxury restaurant, I expected that the overall service performance would be... Very poor (1)- Excellent (7)                                                           | .96            | .96 | .90 |
|                                       | 2: Before my experience with luxury restaurant, I expected that its ability to perform the promised service reliably and accurately would be... Extremely incompetent (1)- Extremely competent (7) | .97            |     |     |
|                                       | 3: Before my experience with luxury restaurant, I expected that its ability to meet my personal needs would be... Not at all satisfactory (1)- Extremely satisfactory (7)                          | .91            |     |     |
| <b><u>Response (R)</u></b>            |                                                                                                                                                                                                    |                |     |     |
| Loyalty                               | 1: I would like to come back to this restaurant in the future.                                                                                                                                     | .82            | .90 | .74 |
|                                       | 2: I plan to revisit this restaurant in the future.                                                                                                                                                | .89            |     |     |

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|                                                                  |     |
|------------------------------------------------------------------|-----|
| 3: I would recommend this restaurant to my friends or<br>others. | .87 |
|------------------------------------------------------------------|-----|

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-CR= Composite reliability; AVE= Average Variance Extracted



**Table 4 Correlation between Constructs following CFA**

|                           | FQ         | SQ         | A          | OC         | PE         | NE         | L          |
|---------------------------|------------|------------|------------|------------|------------|------------|------------|
| 1. Food quality (FQ)      | <b>.75</b> |            |            |            |            |            |            |
| 2. Service quality (SQ)   | .68        | <b>.78</b> |            |            |            |            |            |
| 3. Atmospherics (A)       | .67        | .57        | <b>.81</b> |            |            |            |            |
| 4. Other customers (OC)   | .34        | .33        | .40        | <b>.88</b> |            |            |            |
| 5. Positive emotions (PE) | .48        | .57        | .50        | .17        | <b>.89</b> |            |            |
| 6. Negative emotions (NE) | -.51       | -.44       | -.34       | -.28       | -.37       | <b>.94</b> |            |
| 7. Loyalty (L)            | .67        | .54        | .51        | .21        | .58        | -.68       | <b>.84</b> |

-  $p < 0.01$ , <sup>a</sup> Bold numbers on the diagonal parentheses are square root of each construct's AVE value

**Table 5 Hypotheses Tests**

| Path       | Standard estimate | <i>t</i>  | Test    |
|------------|-------------------|-----------|---------|
| H1a: FQ→PE | .11               | .76       | Reject  |
| H1b: FQ→NE | -.62              | -4.01***  | Support |
| H2a: SQ→PE | .60               | 4.84***   | Support |
| H2b: SQ→NE | -.26              | -2.12**   | Support |
| H3a: A→PE  | .33               | 2.96**    | Support |
| H3b: A→NE  | .10               | .85       | Reject  |
| H4a: OC→PE | -.10              | -1.61     | Reject  |
| H4b: OC→NE | -.12              | -1.89*    | Support |
| H5a: PE→L  | .34               | 7.64***   | Support |
| H5b: NE→L  | -.49              | -10.36*** | Support |

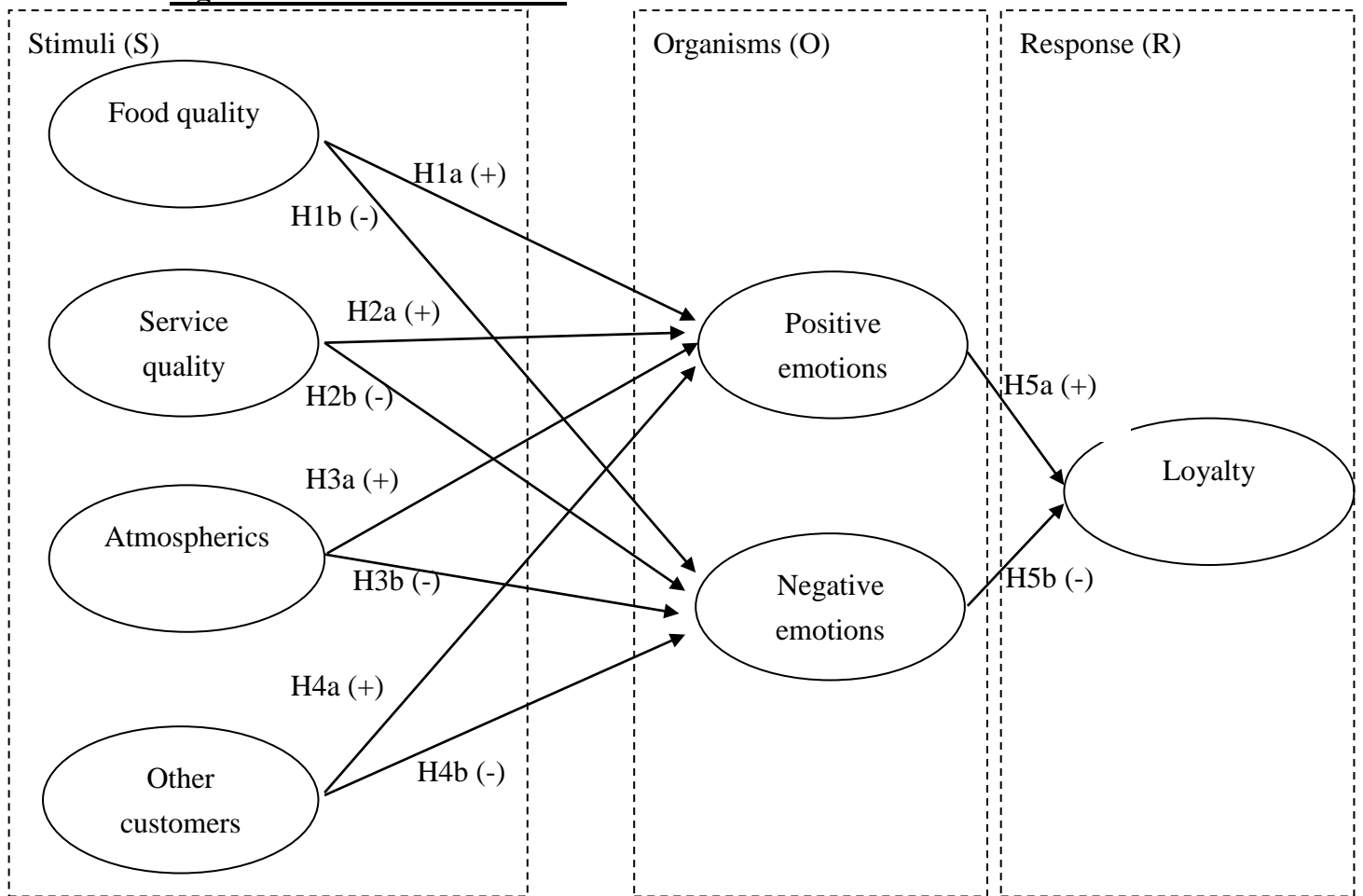
-FQ=Food quality; SQ= Service quality; A= Atmospherics; OC= Other customers;  
PE= Positive emotions; NE= Negative emotions; L= loyalty

-\* $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Table 6 Results from Sobel Test**

| Mediator          | Independent variable | Relation with loyalty | Proposed hypotheses and results | Emotion's mediating effect |
|-------------------|----------------------|-----------------------|---------------------------------|----------------------------|
| Positive emotions | Food quality         | Significant           | H1a: Reject                     | No effect                  |
|                   | Service quality      | Insignificant         | H2a: Support                    | Fully mediate              |
|                   | Atmospherics         | Insignificant         | H3a: Support                    | Fully mediate              |
|                   | Other customers      | Insignificant         | H4a: Reject                     | No effect                  |
| Negative emotions | Food quality         | Significant           | H1b: Support                    | Partially mediate          |
|                   | Service quality      | Insignificant         | H2b: Support                    | Fully mediate              |
|                   | Atmospherics         | Insignificant         | H3b: Reject                     | No effect                  |
|                   | Other customers      | Insignificant         | H4b: Support                    | Fully mediate              |

**Figure 1. Research Framework**



## **Appendix 1- Questions prepared for focus group discussions**

1. Which luxury restaurants have you tried?
2. Can you describe your dining experience?
3. Why do you think this restaurant is luxurious?
4. How are luxury restaurants compared to other restaurants?
5. In your opinion, what defines a 'luxury restaurant'?
6. Can you describe what you think of and / or feel about luxury restaurants?
7. Can you describe the restaurant-related factors (e.g., service quality, food quality, atmospherics, and other customers) that influence your emotions when visiting luxury restaurants?
8. Under what circumstances would you recommend and / or revisit a luxury restaurant?
9. Under what circumstances would you not recommend and / or revisit a luxury restaurant?
10. Are there any other luxury restaurant consumption experiences that you would like to share?

\*During discussion, the mediator can decide whether (1) to use all of the questions or (2) to use these questions in this order.